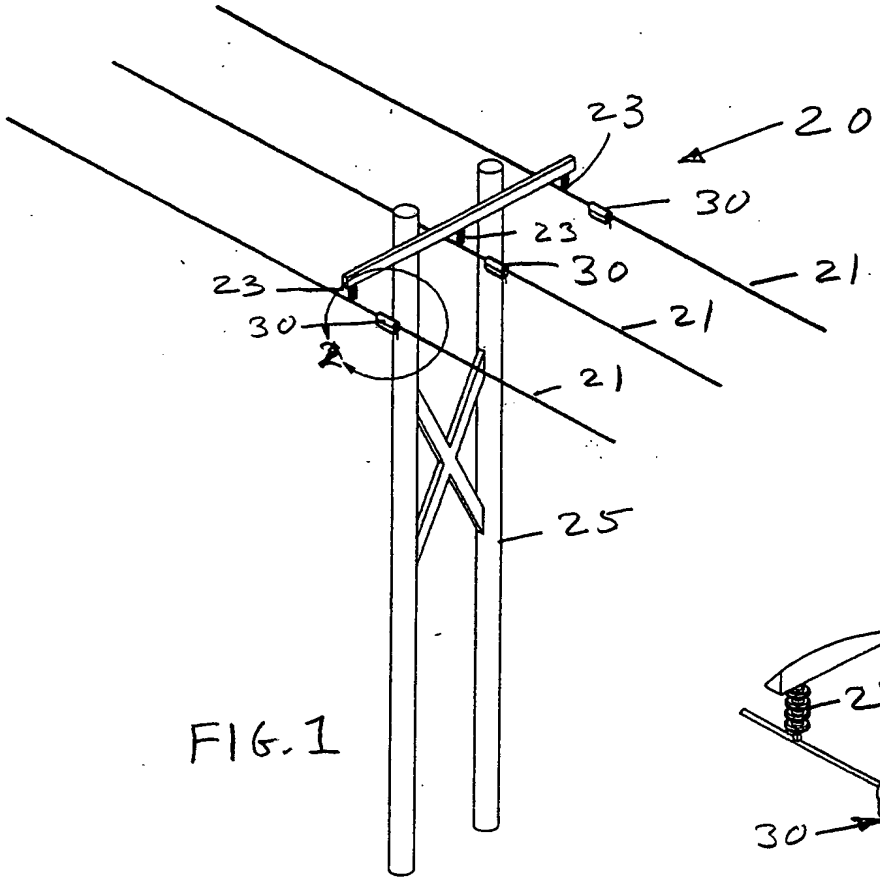


FIG. 1

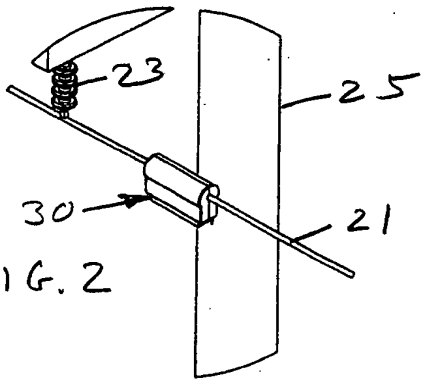


FIG. 2

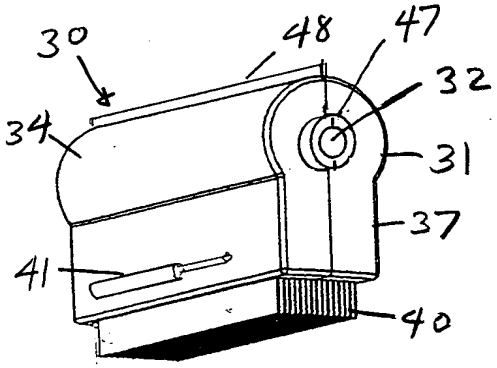


FIG. 3

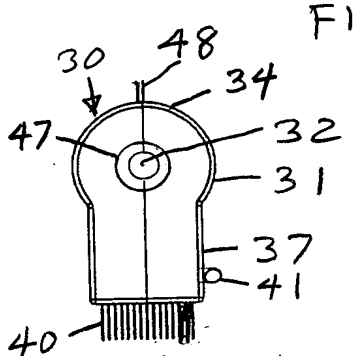


FIG. 4

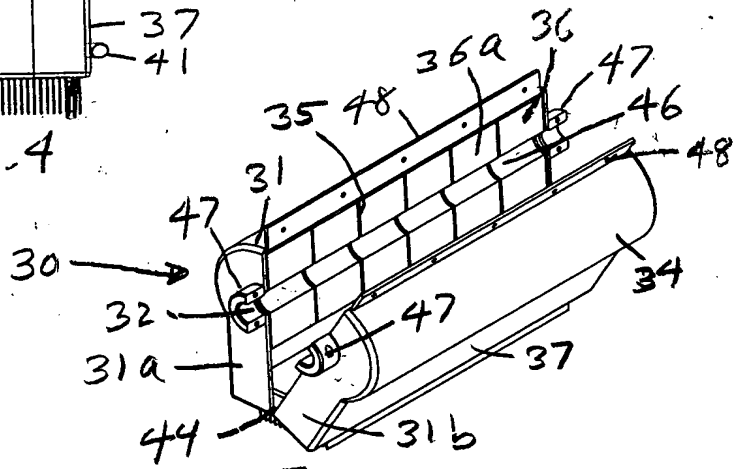
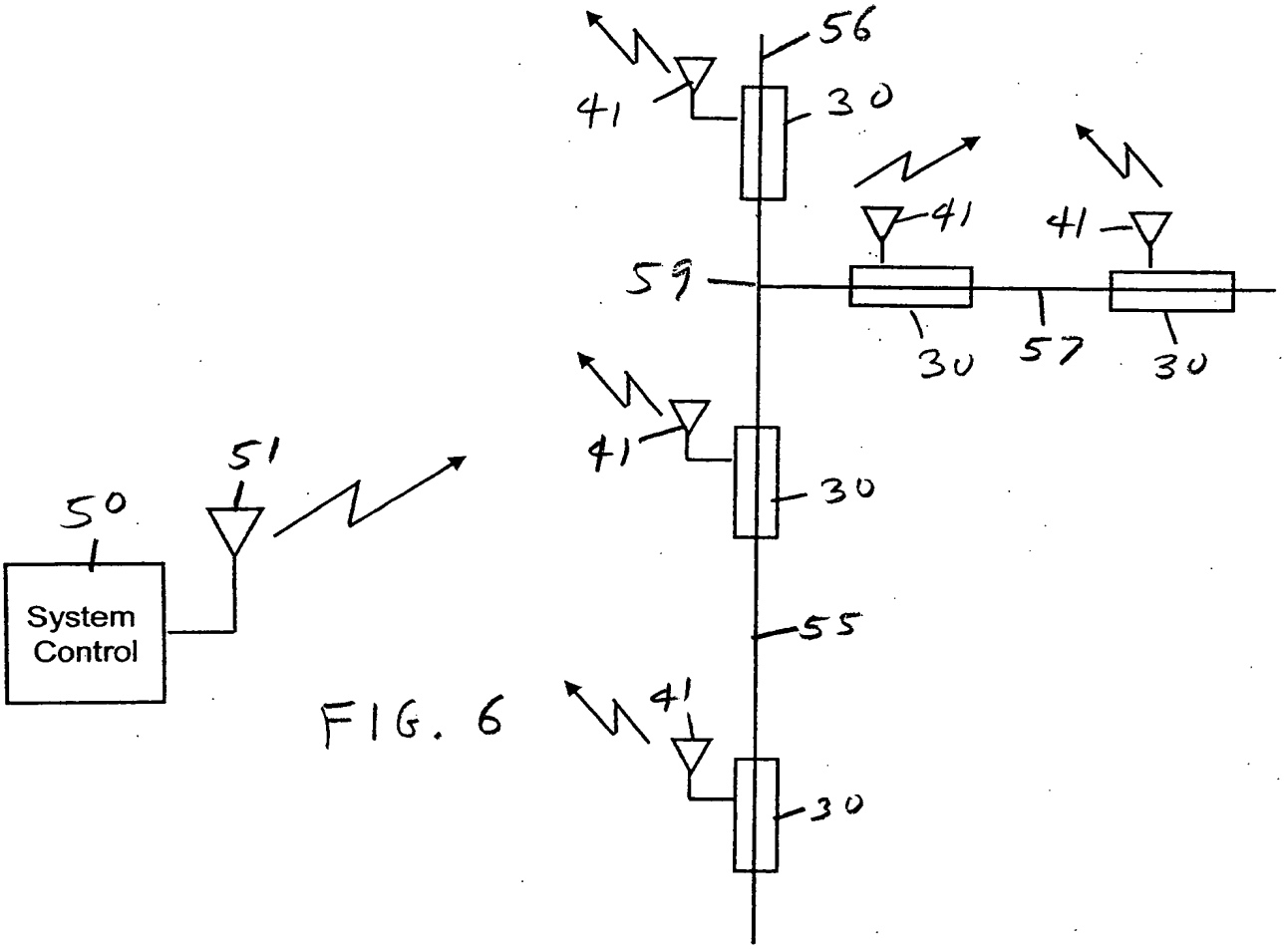


FIG. 5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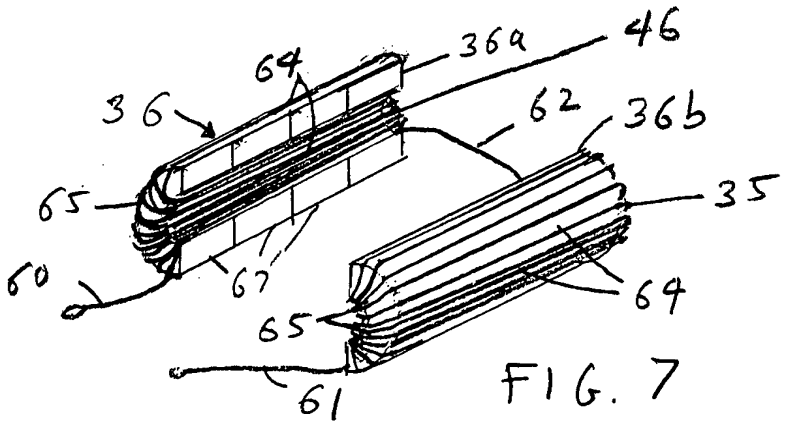
51
50
System
Control

FIG. 6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36a
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62
36b
35
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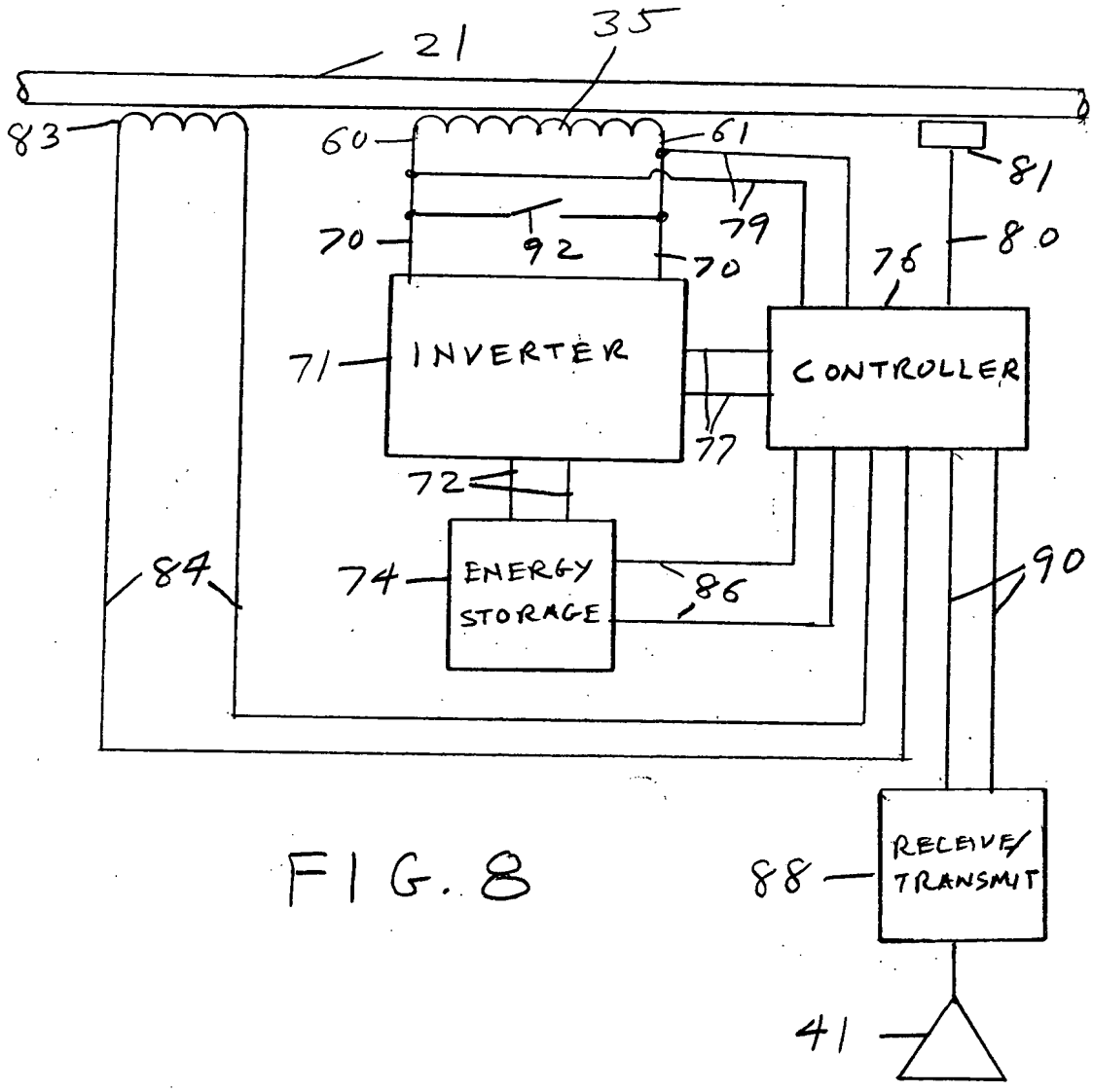
67
64
65
61

FIG. 7


21
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83
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79
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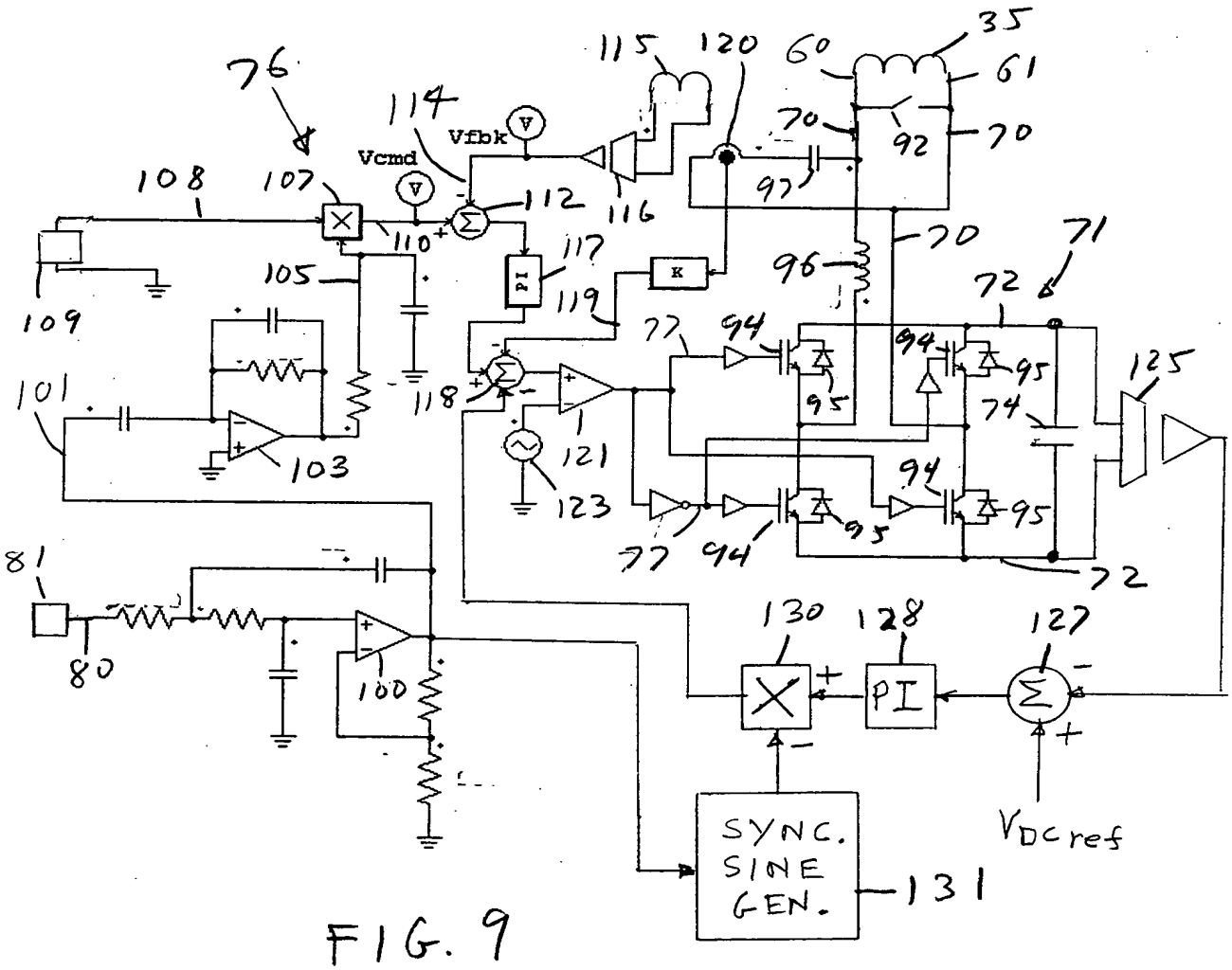
92
70
80
76
INVERTER
71
CONTROLLER
77
72
84
74
ENERGY STORAGE
86
90
RECEIVE/ TRANSMIT
88
41

FIG. 8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Vfbk
Vcmd
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K
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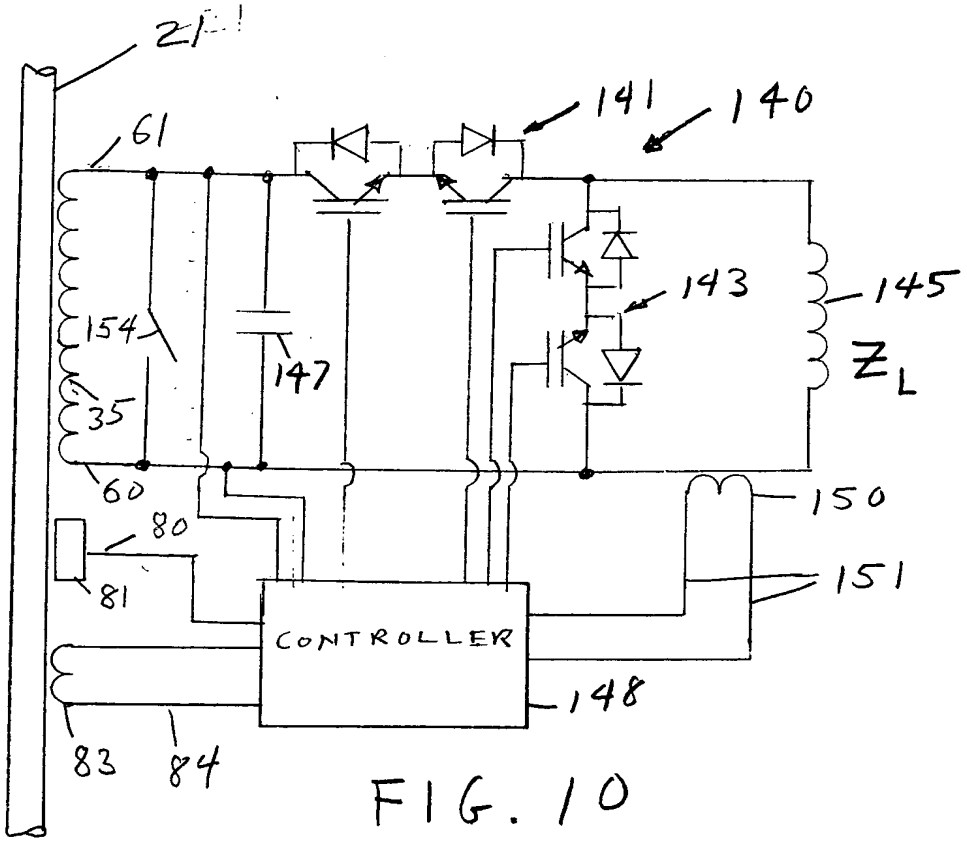
128
PI
127
SYNC.
SINE
GEN.
131
$V_{DC\,ref}$

FIG. 9


21
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Z_L
154
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150
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151
81
CONTROLLER
148
83
84

FIG. 10